

IN THE CLAIMS:

Claim 1 (currently amended) A lighting assembly (13) for a luminescence analysis apparatus (1), in particular a fluorescence microscope, comprising a housing (17) connectable to a base structure (2) of the apparatus (1) and housing at least one light source (18); the lighting assembly comprising two or more interchangeable lighting units (15) comprising respective LED's having respective different emission bands, and two or more interchangeable optical units (50), and selecting means (55) for selectively associating a lighting unit (15) with an optical unit (50); each ~~being characterized by comprising at least one~~ integrated lighting unit (15), ~~in turn~~ comprising a LED (18) defining said light source, and an optical collimating element (20) associated with the LED (18) to convey the light generated by the LED (18) in a substantially parallel beam of light rays; and an excitation filter (30) located opposite the optical element (20), on the opposite side to the LED (18), to select a predetermined emission band of the LED (18); each optical unit (50) comprising a hollow supporting body (51) housing a dichroic plate (38) substantially facing the optical element (20) and tilted with respect to the beam from the optical element (20); and an emission filter (39) carried by said supporting body (51); wherein said selecting means (55) comprises a movable first structure (61) supporting the lighting units (16); and a movable second structure (62) supporting the optical units (50); said structures (61, 62) being movable with respect to the housing (17) to selectively position a lighting unit (15) and an optical unit (50) substantially facing each other, the optical unit (50) being located downstream from the excitation filter (30).

Claim 2 (cancelled)

Claim 3 (original) A lighting assembly as claimed in Claim 2, characterized in that said excitation filter (30) is a band-pass filter.

Claim 4 (original) A lighting assembly as claimed in Claim 3, characterized in that said excitation filter (30) permits the passage of light of a wavelength within a band superimposed on the emission band of the LED (18) and located about a peak of the LED emission curve.

Claim 5 (original) A lighting assembly as claimed in Claim 2, characterized by comprising an optical unit (50) associated with the lighting unit (15) and located downstream from the excitation filter (30) inside the housing (17); the optical unit (50) comprising a dichroic plate (38) substantially facing the optical element (20) and tilted with respect to the beam from the optical element (20).

Claim 6 (cancelled)

Claim 7 (original) A lighting assembly as claimed in Claim 6, characterized in that the optical unit (50) comprises an emission filter (39) carried by said supporting body (51) and associated with a first exit opening (53).\

Claim 8 (original) A lighting assembly as claimed in Claim 5, characterized by comprising two or more interchangeable lighting units (15) and/or two or more interchangeable optical units (50).

Claim 9 (original) A lighting assembly as claimed in Claim 8, characterized by comprising selecting means (55) for selectively associating a lighting unit (15) with an optical unit (50).

Claim 10 (cancelled)

Claim 11 (original) A lighting assembly as claimed in Claim 1, characterized in that the optical element (20) is located in close proximity to the LED (18), and is connected integrally to the LED (18) to define a preassembled module (16).

Claim 12 (original) A lighting assembly as claimed in Claim 1, characterized in that the optical element (20) is a complex-surface catadioptric collimator.

Claim 13 (original) A lighting assembly as claimed in Claim 1, characterized by comprising releasable means (28) for attaching the housing (17) to the base structure (2).

Claim 14 (original) A luminescence analysis apparatus (1), in particular for fluorescence microscopy, characterized by comprising a lighting assembly (13) as claimed in Claim 1.

Claim 15 (original) An apparatus as claimed in Claim 1, characterized by comprising a sample support (10); and optical means (35) for directing the light generated by the lighting assembly (13) onto a luminescent sample (31) on the support.